19. Discuss in detail about Paper electrophoresis and its significance.

20. Explain briefly about the following.

    (a) Autoradiography and its significance

    (b) Scintillation counter.

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APRIL/MAY 2023

CAMB32 — BIOINSTRUMENTATION

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Define Centrifugation.

2. Write any two applications of Clinical Centrifuges.

3. Expand NMR.

4. What is the working principle of IR spectrophotometry?

5. Define Chromatography.

6. What are the applications of HPLC?

7. What are the applications of PAGE?

8. Define Electrophoresis.

9. List out the types of Biosensors.

10. Define Radioisotope.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain in detail about the principle of sedimentation.

Or

(b) Discuss briefly about working principle of differential centrifuges.

12. (a) Explain briefly about the principle of calorimetry.

Or

(b) Discuss briefly about Beer-Lambert law and its significance.

13. (a) What is chromatography? Discuss briefly about applications of Ion Exchange Chromatography.

Or

(b) Explain briefly about Gas Chromatography and its applications.

14. (a) Discuss in detail about Immunoelectrophoresis and its significance.

Or

(b) Define electrophoresis. Explain in detail about steps involved in preparation of Agarose Gel for electrophoresis technique.

15. (a) Discuss briefly about GM counter and its applications.

Or

(b) Explain in detail about radioisotopes and their importance.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail about the working principle and application of Ultra centrifuges.

17. Explain in detail about the principle, instrumentation and applications of Atomic Absorption Spectrophotometer.

18. Explain briefly about the following

(a) Thin Layer Chromatography and its importance.

(b) Paper Chromatography and its significance.